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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,319	11/21/2003	Zhen Chen	1856-24700 (9481.0-01)	3074
31889	7590	09/15/2005	EXAMINER	
DAVID W. WESTPHAL CONOCOPHILLIPS COMPANY - I.P. Legal P.O. BOX 1267 PONONCA CITY, OK 74602-1267			HAILEY, PATRICIA L	
			ART UNIT	PAPER NUMBER
			1755	

DATE MAILED: 09/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/719,319

Applicant(s)

CHEN ET AL.

Examiner

Patricia L. Hailey

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

Applicants' remarks filed June 29, 2005, have been carefully considered. No claims have been cancelled, added, or amended.

Claims 1-30 remain pending in this application.

***Maintained Rejection***

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

***Claim Rejections - 35 USC § 103***

2. ***Claims 1-30 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Allison et al. (U. S. Patent Application Publication No. 2004/0068148).***

Allison et al. teach oxidative dehydrogenation catalysts comprising a Group VIII promoter metal (e.g., platinum, palladium, or a combination thereof) present at a promoter loading of between 0.005 and about 0.1 weight percent on a refractory support (e.g., zirconia, alumina, or combinations thereof, silicon nitride), and one or more base metals preferably selected from Groups IB, IIB, IVB-VIIB, IIA-VA, scandium, yttrium, actinium, iron, cobalt, nickel, manganese, chromium, tin, copper, gold, their corresponding oxides, and combinations thereof. The base metal is present at a base metal loading of between about 0.5 and about 20 weight percent of the catalyst. See paragraphs [0022]-[0023] of Allison et al., as well as the claims.

Paragraph [0031] of Allison et al. discloses that combinations of the base metals are within the scope of Allison et al.'s invention. Note that, additionally, base metals such as manganese and copper are disclosed as exemplary base metals. From this, one of ordinary skill in the art would easily deduce that Allison et al. reasonably suggests Applicants' claimed dehydrogenation catalysts, e.g., the combination of copper and what Applicants' claim as a "non-copper base metal".

Paragraph [0032] of Allison et al. discloses, in addition to the aforementioned base metal loading percentage range, that the molar ratio of the optional base metal to the promoter metal is preferably 10 or more.

In paragraph [0037] of Allison et al., exemplary supports are disclosed, including zirconia, stabilized zirconia, alumina, various stabilized aluminas, silicon nitride, and magnesia (magnesium oxide).

The promoter metal and the base metal may be deposited onto the support by any method known in the art, such as by incipient wetness, impregnation, chemical vapor deposition, and co-precipitation. See paragraph [0038] of Allison et al.

Allison et al. do not specifically teach the ratio of copper to base metal. However, in view of the feasibility in Allison et al. to employ combinations of metals to obtain exemplary catalysts of Allison et al., it would have been obvious to one skilled in the art to select from the suitable promoter and base metals disclosed in Allison et al. and obtain Applicants' claimed catalyst. It has been held to be within the general skill of a

worker in the art to select a material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 U.S.P.Q 416.

All claim limitations not specifically addressed are considered within the purview of the prior art.

### *Response to Arguments*

The above rejection has been maintained because the requirements of 35 USC 103(c)(1) have not completely been met by Applicants. Although Applicants have provided a reading of this section, as well as reel and frame recordations of the '148 publication, Applicants have not provided a **separate statement** that "the subject matter and the claimed invention were, at the time the claimed invention was made, owned by the same person or subject to an obligation of assignment to the same person."

### *New Grounds of Rejection*

The following New Grounds of Rejection are being made in view of the Examiner's discovery of the reference to Allison et al. (U. S. Patent Application Publication No. 2004/0225165).

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. *Claims 17, 22, and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Allison et al. (U. S. Patent Application Publication No. 2004/0225165).*

The applied reference has a common inventor with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

Allison et al. disclose an oxidative dehydrogenation catalyst comprising one or more base metals (e.g., manganese, copper), one or more promoter metals (e.g., platinum, rhodium, ruthenium, iridium, and palladium), and a refractory support (e.g., stabilized zirconia, zirconia, stabilized alumina, silicon nitride, magnesia). See paragraphs [0032] to [0034], [0037], and [0040] of Allison et al.

In view of these teachings, Allison et al. anticipate claims 17, 22, and 23.

*Claim Rejections - 35 USC § 103*

5. *Claims 1-7, 10-14, 18-21, and 24-30 are rejected under 35 U.S.C. 103(a) as being obvious over Allison et al. (U. S. Patent Application Publication No. 2004/0225165).*

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Allison et al. disclose an oxidative dehydrogenation catalyst comprising one or more base metals (e.g., manganese, copper, chromium, tin, gold, scandium, yttrium, actinium, cobalt, nickel, their oxides and combinations thereof), one or more promoter metals (e.g., platinum, rhodium, ruthenium, iridium, nickel, iron, cobalt, osmium, and

palladium), and a refractory support (e.g., stabilized zirconia, zirconia, stabilized alumina, silicon nitride, magnesia). See paragraphs [0032] to [0034], [0037], and [0040] of Allison et al.

The base metal(s) are present in the catalyst in amounts ranging from about 0.5 to about 20 weight percent, relative to the overall weight of the catalyst. See paragraph [0035] of Allison et al.

The base metal(s) and promoter metal(s) may be deposited in or on the refractory support "by any method known in the art", such as by incipient wetness impregnation. See paragraphs [0039] and [0041] of Allison et al.

Although Allison et al. do not disclose specific percentage ranges for the individual metal components, e.g., a specified percentage of copper, it would have been obvious to one of ordinary skill in the art at the time the invention was made to select from the metals disclosed in Allison et al. and, via routine experimentation, select optimal amounts of these metals within the disclosed percentage range, and thereby obtain Applicants' claimed catalyst, as well as the claimed molar ratios.

### *Conclusion*

6. The newly discovered publication prompted the new ground(s) of rejection presented in this Office action. This publication has a common inventor with the instant application. Therefore, Applicants were aware of this publication at the time of the filing of the instant application, and should have cited this copending application in



an Information Disclosure statement. Applicants are reminded of their duty to disclose any information, including copending applications, which are material to patentability. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609.04(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

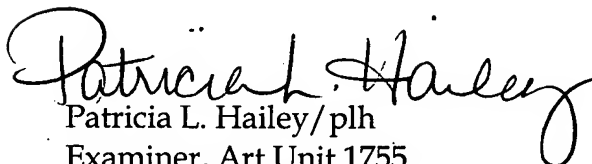
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patricia L. Hailey whose telephone number is (571) 272-1369. The examiner can normally be reached on Mondays-Fridays.

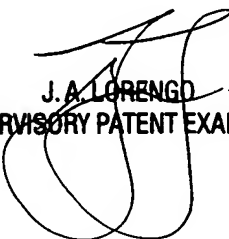
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 1700 Receptionist, whose telephone number is (571) 272-1700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Patricia L. Hailey/plh  
Examiner, Art Unit 1755  
September 7, 2005

  
J. A. LORENDO  
SUPERVISORY PATENT EXAMINER